| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/631,155 | 07/31/2003 | Viresh Ratnakar | AP179HO | 2231 |

20178        7590        07/01/2008
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| EXAMINER |
|---|
| RAO, ANAND SHASHIKANT |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2621 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 07/01/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
| --- | --- | --- |
| **Office Action Summary** | 10/631,155 | RATNAKAR ET AL. |
| | Examiner | Art Unit | |
| | Andy S. Rao | 2621 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on <u>02 April 2008</u>.
2a) ☐ This action is FINAL.    2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1-15</u> is/are pending in the application.
   4a) Of the above claim(s) <u>4</u> is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-3, 5-15</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All  b) ☐ Some * c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>5/10/06 and 4/25/06</u>.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

## DETAILED ACTION

### Election/Restrictions

1.      Applicant's election without traverse of Group I as read on by claims 1-3, and 5-15 in the

reply filed on 4/2/08 is acknowledged. Prosecution as to the merits of claims 1-3 and 5-15 is

summarily undertaken with this Office Action.

### Double Patenting

2.      The nonstatutory double patenting rejection is based on a judicially created doctrine

grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection

is appropriate where the conflicting claims are not identical, but at least one examined

application claim is not patentably distinct from the reference claim(s) because the examined

application claim is either anticipated by, or would have been obvious over, the reference

claim(s). See, e.g., *In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re*

*Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225*

*USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In*

*re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970)*; and  *In re Thorington, 418 F.2d 528, 163*

*USPQ 644 (CCPA 1969).*

        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may

be used to overcome an actual or provisional rejection based on a nonstatutory double patenting

ground provided the conflicting application or patent either is shown to be commonly owned

with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3.      Claim 2 of the instant application provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 5 of copending Application No. #10/783,696.  Although the conflicting claims are not identical, they are not patentably distinct from each other because even though claim 5 lists more of the variable parameters of the codec than that of claim 2 of instant application, it does indeed list all the motion search algorithms of claim, and thus claim 2 represents only the obvious an unpatentable elimination of the non motion estimation parameters of claim 5. The Examiner notes that this sort of modification has been determined by existing case law as unpatentable as all it represents is the elimination of elements (i.e. non-motion estimation based parameters), and thus well within the purview of one of ordinary skill in the art, *In re Karlson,* *153 USPQ 740 (CCPA 1967).*

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.


### *Claim Rejections - 35 USC § 102*

4.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5.      Claims 1-3, 5-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Pejhan et al., (hereinafter referred to as "Pejhan").

Pejhan discloses a codec (Pejhan: column 3, lines 20-30), comprising: an encoder (Pejhan: column 3, lines 27-31) that includes a first plurality of variable parameters (Pejhan: column 5, lines 1-6) that are used to specify different settings at which a coding algorithm applied to incoming video data operates (Pejhan: column 3, lines 5-21); and a decoder that includes a second plurality of variable parameters that are used to specify different settings at which a decoding algorithm applied to outgoing video data operates (Pejhan: figure 1, element 114); wherein the codec is configured such that, during operation, at least one of the coding algorithm and decoding algorithm is able to dynamically change its operating setting according

to available computational resources in response to actual complexity measurements performed at run-time (Pejhan: column 3, lines 10-20), as in claim 1.

Regarding claim 2, Pejhan discloses wherein the first plurality of variable parameters that are used to specify the different settings at which the coding algorithm operates include motion-search window, motion-search algorithm, motion-search sum-of-absolute-differences measurement sub-sampling factor, and motion-search half-pel refinement none/x-only/x-and-y (Pejhan: column 6, lines 45-67; column 7, lines 1-47), as in the claim.

Regarding claim 3, Pejhan discloses wherein the second plurality of variable parameters that are used to specify the different settings at which the decoding algorithm operates include IDCT, chroma-skipping, and frame-display skipping (Pejhan: column 3, lines 45-60; column 4, lines 7-30), as in the claim.

Pejhan discloses a device for processing a video stream (Pejhan: figure 1), comprising: a plurality of variable parameters (Pejhan: column 5, lines 1-6) that are used to specify different settings at which an algorithm applied to the video stream operates (Pejhan: column 3, lines 5-21); wherein the device is configured such that, during operation, the algorithm is able to dynamically change its operating setting according to available computational resources in response to actual complexity measurements performed at run-time (Pejhan: column 3, lines 10-20), as in claim 5.

Regarding claim 6, Pejhan discloses wherein the device comprises an encoder, and the algorithm comprises a coding algorithm (Pejhan: column 4, lines 5-25), as in the claim.

Regarding claim 7, Pejhan discloses wherein the plurality of variable parameters that are used to specify the different settings at which the coding algorithm operates include motion-

search window, motion-search algorithm, motion-search sum-of-absolute-differences measurement sub-sampling factor, and motion-search half-pel refinement none/x-only/x-and-y (Pejhan: column 6, lines 45-67; column 7, lines 1-47), as in the claim.

Regarding claim 8, Pejhan discloses that the device comprises a decoder, and the algorithm comprises a decoding algorithm (Pejhan: figure 1, element 114), as in the claim.

Regarding claim 9, Pejhan discloses wherein the plurality of variable parameters that are used to specify the different settings at which the decoding algorithm operates include IDCT, chroma-skipping, and frame-display skipping (Pejhan: column 3, lines 45-60; column 4, lines 7-30), as in the claim.

Pejhan discloses a method for processing a video stream (Pejhan: figure 3), comprising the steps of: measuring the real-time used by an algorithm for a previous frame (Pejhan: column 3, lines 25-35 and 55-62); averaging the measured real-time used for the previous frame with a previously measured real-time for the algorithm to obtain a weighted average time value (Pejhan: column 6, lines 1-10); comparing the weighted average time value with a target rang; and 'controlling a setting of the algorithm (Pejhan: column 3, lines 35-45) by: downgrading the algorithm setting, if the weighted average time value is greater than an upper bound of the target range, and upgrading the algorithm setting, if the weighted average time value is less than a lower bound of the target range and has been so over a predetermined number of frames (Pejhan: column 6, lines 15-25), as in claim 10.

Regarding claims 11-12, Pejhan discloses wherein the controlling a setting of the algorithm further comprises: periodically upgrading the algorithm setting, if the weighted average time value is between the lower bound of the target range and a target value within the

target range, wherein the step of upgrading the algorithm periodically is also carried out, if the weighted average time value is less than the lower bound of the target range but has not been so for at least the predetermined number of frames (Pejhan: column 3, lines 60-65), as in the claims.

Pejhan discloses a machine-readable medium embodying a program of instructions for directing a device to process a video stream (Pejhan: column 8, lines 15-30), the program of instructions comprising: instructions for measuring the real-time used by an algorithm for a previous frame (Pejhan: column 3, lines 25-35 and 55-62); instructions for averaging the measured real-time used for the previous frame with a previously measured real-time for the algorithm to obtain a weighted average time value (Pejhan: column 6, lines 1-10); instructions for comparing the weighted average time value with a target range; and instructions for controlling a setting of the algorithm (Pejhan: column 3, lines 35-45) including: instructions for downgrading the algorithm setting, if the weighted average time value is greater than an upper bound of the target range, and instructions for upgrading the algorithm setting, if the weighted average time value is less than a lower bound of the target range and has been so over a predetermined number of frames (Pejhan: column 6, lines 15-25), as in claim 13.

Regarding claims 14-15, Pejhan discloses wherein the instructions for controlling a setting of the algorithm further comprises: instructions for periodically upgrading the algorithm setting, if the weighted average time value is between the lower bound of the target range and a target value within the target range, wherein the instructions for upgrading the algorithm periodically is also executed, if the weighted average time value is less than the lower bound of the target range but has not been so for at least the predetermined number of frames (Pejhan: column 3, lines 60-65), as in claims.

### *Conclusion*

6.      The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sun discloses a reference frame prediction and block mode prediction for fast motion searching in advanced video coding.

7.      Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                Andy S. Rao
                                                Primary Examiner
                                                Art Unit 2621

asr

/Andy S. Rao/
Primary Examiner, Art Unit 2621
June 29, 2008